

IN THE CLAIMS

This listing of the claims will replace all prior versions and listings of claims in the application:

1-29. (Canceled)

30. (Previously Presented) A method for stimulating tyrosine kinase activity of a receptor that binds VEGF-2 in a cell, comprising contacting a cell with a polypeptide comprising an amino acid sequence at least 95% identical to the amino acid sequence of residues 23 to 419 of SEQ ID NO:2 in an amount effective to stimulate tyrosine phosphorylation of said kinase receptor.

31. (Previously Presented) A method for stimulating tyrosine kinase activity of a receptor that binds VEGF-2 in a cell, comprising contacting a cell with a polypeptide comprising an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID NO:2 in an amount effective to stimulate tyrosine phosphorylation of said kinase receptor.

32. (Previously Presented) A method for promoting growth of endothelial cells that express a tyrosine receptor that binds VEGF-2, comprising contacting the cells with a polypeptide comprising an amino acid sequence at least 95% identical to the amino acid sequence of residues 23 to 419 of SEQ ID NO:2 in an amount effective to promote the growth of the endothelial cells.

33. (Previously Presented) A method for promoting growth of endothelial cells that express a tyrosine receptor that binds VEGF-2, comprising contacting the cells with a polypeptide comprising an amino acid sequence at least 95% identical to the amino acid sequence of SEQ ID NO:2 in an amount effective to promote the growth of the endothelial cells.

34. (Previously Presented) A method for stimulating tyrosine kinase activity of a

receptor that binds VEGF-2 in a cell, comprising contacting a cell with a polypeptide comprising an amino acid sequence encoded by the cDNA contained in ATCC Deposit No. 97149, minus the leader sequence, in an amount effective to stimulate tyrosine phosphorylation of said kinase receptor.

35. (Previously Presented) A method for stimulating tyrosine kinase activity of a receptor that binds VEGF-2 in a cell, comprising contacting a cell with a polypeptide comprising an amino acid sequence encoded by the cDNA contained in ATCC Deposit No. 97149 in an amount effective to stimulate tyrosine phosphorylation of said kinase receptor.

36. (Previously Presented) A method for promoting growth of endothelial cells that express a tyrosine receptor that binds VEGF-2, comprising contacting the cells with a polypeptide comprising an amino acid sequence encoded by the cDNA contained in ATCC Deposit No. 97149, minus the leader sequence, in an amount effective to promote the growth of the endothelial cells.

37. (Previously Presented) A method for promoting growth of endothelial cells that express a tyrosine receptor that binds VEGF-2, comprising contacting the cells with a polypeptide comprising an amino acid sequence encoded by the cDNA contained in ATCC Deposit No. 97149 in an amount effective to promote the growth of the endothelial cells.

38. (New) A purified and isolated polypeptide that binds to a receptor tyrosine kinase, said polypeptide including a mature portion of a protein of SEQ ID NO: 2 or 4 that is sufficient to bind the receptor tyrosine kinase,

wherein said mature portion includes eight cysteine residues that are conserved in human vascular endothelial growth factor (VEGF), human platelet derived growth factor A (PDGF-A), and human platelet derived growth factor B (PDGF-B).

39. (New) A polypeptide according to claim 38 further comprising a detectable label.

40. (New) A composition comprising a polypeptide according to claim 38 in a pharmaceutically-acceptable carrier.
41. (New) A purified and isolated mammalian polypeptide that binds to a receptor tyrosine kinase,
said polypeptide including a mature portion of a ligand precursor polypeptide that is sufficient to bind the receptor tyrosine kinase,
wherein said ligand precursor polypeptide is encoded by a DNA which hybridizes under stringent conditions to a non-coding strand complementary to SEQ ID NO: 1 or 3,
wherein said mature portion includes eight cysteine residues that are conserved in human vascular endothelial growth factor (VEGF) and human platelet derived growth factors A and B (PDGF-A, PDGF-B).
42. (New) A purified and isolated polypeptide according to claim 41, said polypeptide having a molecular weight of approximately 32 kD as determined by SDS-PAGE under reducing conditions.
43. (New) A purified and isolated polypeptide according to claim 42, wherein said polypeptide stimulates tyrosine phosphorylation of a receptor tyrosine kinase in a host cell expressing said receptor tyrosine kinase.
44. (New) A purified and isolated mature polypeptide that binds to a receptor tyrosine kinase, said polypeptide being encoded by the cDNA contained in ATCC Accession Numbers 97149 or 75698.
45. (New) A purified and isolated mature polypeptide that binds to a receptor tyrosine kinase, said polypeptide having an amino acid sequence consisting of a portion of the amino acid sequence set forth in SEQ ID NO: 2 or 4.
46. (New) A purified and isolated mature polypeptide according to claim 45 wherein said portion of the amino acid sequence set forth in SEQ ID NO: 2 or 4 includes eight

cysteine residues that are conserved in human vascular endothelial growth factor (VEGF) and human platelet derived growth factors A and B (PDGF-A, PDGF-B).

47. (New) A purified protein comprising a first polypeptide linked to a second polypeptide, wherein at least one of said first polypeptide and said second polypeptide is a polypeptide according to claim 38, 41, 44 or 45 and wherein said purified protein binds to a receptor tyrosine kinase.

48. (New) A purified protein comprising a first polypeptide linked to a second polypeptide, wherein each of said first polypeptide and said second polypeptide is a polypeptide according to claim 38, 41, 44 or 45, and wherein said purified protein binds to a receptor tyrosine kinase.

49. (New) A polypeptide according to any one of claims 38, 41, 44 or 45, wherein said polypeptide further includes a polyhistidine amino acid sequence.

50. (New) A polypeptide according to claim 38, 41, 44 or 45 having an apparent molecular weight of approximately 32 kD as assessed by SDS-PAGE under reducing conditions.

51. (New) A polypeptide according to claim 38, 41, 44 or 45 that binds a receptor tyrosine kinase and stimulates phosphorylation in mammalian cells expressing the receptor tyrosine kinase.

52. (New) A purified polypeptide according to claim 51 wherein said polypeptide has an apparent molecular weight of approximately 21-23 kD as assessed by SDS-PAGE under reducing conditions.

53. (New) A purified polypeptide according to claim 51 wherein said polypeptide has an apparent molecular weight of about 32 kD as assessed by SDS-PAGE under reducing conditions.

54. (New) A purified protein comprising a first polypeptide linked to a second polypeptide, wherein at least one of said first polypeptide and said second polypeptide is a polypeptide according to claim 51, and wherein said protein is capable of binding to a receptor tyrosine kinase.

55. (New) A purified protein according to claim 54 wherein said first polypeptide is covalently linked to said second polypeptide

56. (New) A purified and isolated mature polypeptide that binds to a receptor tyrosine kinase, said polypeptide comprising a portion of SEQ ID NO: 2 or 4 effective to permit said binding.

57. (New) A purified mature polypeptide that binds to the a receptor tyrosine kinase, said polypeptide produced by a method comprising the steps of:

- (a) expressing a nucleic acid in a host cell; and
- (b) purifying a polypeptide that binds to the receptor tyrosine kinase from said host cell or from a growth medium of said host cell;

wherein said nucleic acid comprises a nucleotide sequence encoding a mature portion of the amino acid sequence in SEQ ID NO: 2 or 4 effective to permit such binding.

58. (New) A purified and isolated polypeptide according to claim 57, wherein said purifying comprises an affinity purification procedure.

59. (New) A polypeptide according to claim 57, that has an apparent molecular weight of approximately 32 kD as assessed by SDS-PAGE under reducing conditions.

60. (New) A composition comprising a polypeptide according to any one of claims 41, 44-46, 56 and 57 in a pharmaceutically-acceptable carrier.

61. (New) A method of modulating the activity of a receptor tyrosine kinase comprising administering to a person in need of modulation of the receptor tyrosine kinase activity a composition according to claim 60.

62. (New) A method of modulating the activity of a receptor tyrosine kinase comprising contacting cells that express the receptor tyrosine kinase with a polypeptide according to any one of claims 41, 44-46, 56 and 57.

63. (New) A method of modulating the growth of mammalian endothelial cells comprising the steps of:

exposing mammalian endothelial cells to a polypeptide according to any one of claims 41, 44-46, 56 and 57, in an amount effective to modulate the growth of mammalian endothelial cells, wherein the mammalian endothelial cells comprise cells that express a receptor tyrosine kinase.

64. (New) A method for detecting endothelial cells that express a tyrosine kinase receptor in a biological tissue comprising the steps of

exposing a biological tissue comprising endothelial cells to a polypeptide according to any one of claims 41, 44-46, 56 and 57, under conditions wherein said polypeptide binds to endothelial cells; and

detecting said polypeptide bound to endothelial cells in said biological tissue, thereby detecting said endothelial cells.